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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,345	01/23/2004	Tie Liu	MS1-1811US	5777

22801 7590 01/11/2008

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EXAMINER	
RAVETTI, DANTE	

ART UNIT	PAPER NUMBER
4194	

MAIL DATE	DELIVERY MODE
01/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/764,345	LIU ET AL.	
	Examiner	Art Unit	
	Dante Ravetti	4194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/07/2004, 10/01/2004, 12/13/2004, 9/7/2005, 1/3/2006, 2/28/2006, 06/08/2006, 9/01/2006, 11/17/2006, 02/28/2007, 5/18/2007, 10/23/2007, 1/07/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

STATUS OF CLAIM(s)

1. This communication is in response to Application No. 10/764345, filed on 1/23/2004.

2. Claims 1-17 are currently pending and have been examined.

3. Claims 1-17 have been rejected.

4. **Examiner's Note**: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Inventorship

5. This application currently names joint inventors. In considering patentability of the claims under **35 U.S.C. §103(a)**, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under **37 C.F.R. §1.56** to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of **35 U.S.C. §103(c)** and potential **35 U.S.C. §102(e), (f)** or **(g)** prior art under **35 U.S.C. §103(a)**.

Oath/Declaration

6. The oath or declaration is defective. It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in **37 C.F.R. §1.56**.

Information Disclosure Statement

7. The information disclosure statement (IDS) submitted on 1/23/2004. The submission is in compliance with the provisions of **37 C.F.R. §1.97**. Accordingly, the information disclosure statement is being considered by the examiner. An initialed copy of the **Form 1449** is enclosed herewith.

Specification Objections

8. The disclosure is objected to because of the following informalities:

Page 2, of the specification lists a function "X = s + *w*(M)," but fails to identify all of its terms

Page 9, of the specification makes reference to "DC" subband, but does not define, "DC"

Page 10, par. 34, uses both a semi-colon and a comma

Page 12, second sentence, the value of "N" is unknown and unsure of

Page 13, equation 1, is not listed on or near page 13

Page 14, par. 54, there are commas missing between the terms weighted linear statistical

Page 17, par. 68, the second term "subject good" is not completely in quotations

Page 20 and 22, Equation 1 is not on the listed pages

Furthermore, page 15 and 22 of the specification lists an equation to determine the "rational" statistics vector, h, but they are two different functions

The Examiner respectfully requests that the Applicant checks the specification for any other informalities that may be found. Appropriate correction is required.

Claim Objections

9. **Claims 4, 9, 10, 11, 12, and 17 are objected** to because of the following informalities: In regards to claim 9, there should be colon following the word comprising. Also, with claim 9, the phrase, "watermarking a digital good with a watermark" is unclear. Perhaps, what is meant is "marking a digital good with a watermark."

In regards to claims 4 and 17, none of the prior art teaches the listed hashing equation; therefore, this Examiner will object to it. Claims 10, 11, and 12 are not in proper dependent form. Appropriate correction is required.

Claim Rejections – 35 U.S.C. §101

10. **35 U.S.C. §101** reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title

Claim 7, 10, and 11 are rejected under **35 U.S.C. §101**beacuse the claim invention is directed to non-statutory subject matter.

- Either claim(s) do not fall under any of the four categories of a process, machine, manufacture, or composition of matter
  - Utility test i.e., practical application, must be met (specific, substantial, credible utility)

- Or claim(s) fall under the three judicial exceptions of law of nature, natural phenomenon, or abstract idea without practical application present, and/or lack of utility, specifically:
    - No physical transformation, or
    - No useful (specific, substantial, and credible utility), concrete (assured, predictable, or repeatable result), tangible (real world) result

11. In this instant application, claims 7, 10, and 11 refers to a modulated signal generated by a medium which does not fall under any of the four categories of a process, machine, manufacture, or composition of matter.

Claim Rejections – 35 U.S.C. §112

12. The following is a quotation of the second paragraph of **35 U.S.C. §112**:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. **Claim 7, 10 are rejected** under **35 U.S.C. §112**, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 7 and 10, currently as read it is unclear what the signal comprises of, there is also a problem of a medium being capable of generating a signal, a computer would be needed for this. If the applicant would like to claim a signal claim it might be easier to rewrite the independent claims the signal claims depend from into signal claims.

Claim Rejections – 35 U.S.C. §102

14. The following is a quotation of the appropriate paragraphs of **35 U.S.C. §102** that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

15. **Claims 1-17 are rejected** under **35 U.S.C. §102(a)** as being anticipated by Vankatesan et al, US Patent No. 7,095,873 (2002).

In regards to claim 1, A processor-readable medium having processor-executable instructions that, when executed by a processor, performs acts comprising:

obtaining a digital good;

partitioning the digital good into a plurality of regions;

calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region;

quantizing the statistics;

marking the digital good with the quantized statistics of the plurality of the regions.

In the instant application, all these limitations can be found in Vankatesan et al, column 8, lines 25-31; Claims 1 and 6).

In regards to claim 2, wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function (Vankatesan et

al., column 9, line 1-44; Claims 1 and 6);

In regards to claim 3, the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function employing a quotient of at least two weighted linear combinations of statistics of the one or more regions of the plurality (Vankatesan et al, column 5, line 45–55; column 9, line 17-23);

In regards to claim 4, the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function, h, (Vankatesan et al, column 11, lines 30– 67; column 12, lines 1-65);

In regards to claim 5, wherein the partitioning comprises segmenting the digital good into a plurality of overlapped regions (Vankatesan et al, claim 1, column 3, lines 15 – 28, column 4 lines 12-19; column 8, line 52-58; Abstract, Figure 3);

In regards to claim 6, wherein the marking comprises embedding a watermark via quantization. (Vankatesan et al, column 4, line 32-46);

In regards to claim 7, A modulated signal generated by a medium as recited in claim 1. (Vankatesan et al, column 21, line 7-20);

In regards to claim 8, A computer comprising one or more processor-readable media as recited in claim 1. (Vankatesan et al, column 1, lines 10–23; column 18, line 45-50);

In regards to claim 9, A processor-readable medium having processor-executable instructions that, when executed by a processor, performs acts comprising:

obtaining a digital good;

using quantization;

watermarking the digital good with a watermark;

wherein such quantization is based upon semi-global characteristics of regions of the digital good;

wherein such semi-global characteristics are generated via a hashing function employing a quotient of at least two weighted linear combinations of statistics of the regions of the digital good;

These limitations can be found in Vankatesan et al, at column 8 lines 25- 31, claim 1, column 4, lines 12-46; column 4, lines 46-50; column 5, lines 45-55; column 9, lines 1-23; and Abstract.

In regards to claim 10, A modulated signal generated by a medium as recited in claim 9 (Vankatesan, column 21, Line 1-20);

In regards to claim 11, A modulated signal generated in accordance with the following acts:

receiving input from a client computer by way of a communications network;

the input providing a parameter indicative of a request for a modulated signal generated by a medium as recited in claim 9;

generating the modulated signal by the medium as recited in claim 9;

sending the modulated signal via the communications network.

All of the following limitations are disclose in Vankatesan et al, column 18, line 5-28; column 19, line 47-67; column 20, lines 1-8; column 21, lines 7-20.

In regards to claim 12, A computer comprising one or more processor-readable media as recited in claim 9 (Vankatesan et al, column 1, line 10-16; column 5, line 18 –

29);

In regards to claim 13, A system for facilitating the protection of digital goods, the system comprising:

> a partitioner configured to segment a digital good into a plurality of regions;
>
> a region-statistics calculator configured to calculate statistics of one or more of the plurality of regions,
>
> wherein the statistics of a region are representative of that region;
>
> a region quantizer configured to quantize such statistics of a region;
>
> a digital-goods marker configured to generate a marked good using the quantized statistics.

All of the following limitations are disclosed in Vankatesan et al, Claim 1 and 6.

In regards to claim 14, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function (Vankatesan et al, column 8, lines 2- 11; column 9, line 24–31).

In regards to claim 15, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function, employing a quotient of at least two weighted linear combinations of statistics of the one or more regions of the plurality (Vankatesan et al, column 5, lines 50-62; column 9, line 17-23; column 11, lines 30-45).

In regards to claim 16, wherein the partitioner is further configured to segment a digital good into a plurality of overlapping regions. (Vankatesan et al, column 8, lines 50-58 (lists partitioner)) (column 4, lines 30-50; column 7, lines 34-52; column 12, lines

39-50).

In regards to claim 17, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function, h, (Vankatesan et al, column 11, lines 30– 67; column 12, lines 1-65);

Rejection 35 U.S.C. §102

16. The following is a quotation of the appropriate paragraphs of **35 U.S.C. §102** that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. **Claims 1, 2, 5, 6, 8, 9, 11, 12, 13 and 16 are rejected** under **35 U.S.C. §102(b)** as being anticipated by Venkatesan et al, WO/2002/037331.

In regards to claim 1 and 2, a processor-readable medium having processor-executable instructions that, when executed by a processor, performs acts comprising: obtaining a digital good, partitioning the digital good into a plurality of regions, calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region, quantizing the statistics marking the digital good with the quantized statistics of the plurality of the regions. Wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function.

In this instant application, these limitations are disclosed in Venkatesan et al.

column 2, line 55-67; column 4, line 20-63; column 5, line 10-45.

In regards to claim 5 and 16, wherein the partitioning comprises segmenting the digital good into a plurality of overlapped regions, Vankatesan et al discloses these limitations in Figure 4; column 6, lines 45-67; Claims 5 and 17.

In regards to claim 6, wherein the marking comprises embedding a watermark via quantization, Vankatesan et al discloses these limitations at column 7 lines 29-67, column 8, lines 15-18; Claims 1, 7, 13, 14, and 19.

In regards to claim 8 and 12, a computer comprising one or more processor readable media as recited in claim 1, Vankatesan et al, discloses these limitations at Claims 14, 15, and 16.

In regards to claim 9, a processor-readable medium having processor-executable instructions that, when executed by a processor, performs acts comprising: obtaining a digital good, using quantization, watermarking the digital good with a watermark, wherein such quantization is based upon semi-global characteristics of regions of the digital good, wherein such semi-global characteristics are generated via a hashing function employing a quotient of at least two weighted linear combinations of statistics of the regions of the digital good;

In this instant application, these limitations can be found in Vankatesan et al, at the Abstract, Figure 1, column 3, line 34-46; column 3, line 55-67; column 4, line 41-57; column 5, line 10-31.

In regards to claim 11, a modulated signal generated in accordance with the following acts: receiving input from a client computer by way of a communications network; the input providing a parameter indicative of a request for a modulated signal generated by a medium as recited in claim 9; generating the modulated signal by the medium as recited in claim 9; sending the modulated signal via the communications network.

In this instant application, these limitations are disclosed at Vankatesan et al Figure 1, column 4, lines 58-63; column 5, lines 1-26; and Claim 12.

In regards to claim 13, a system for facilitating the protection of digital goods, the system comprising: a partitioner configured to segment a digital good in a plurality of regions; A region-statistics calculator configured to calculate statistics of one or more of the plurality of regions, wherein the statistics of a region are representative of that region; a region quantizer configured to quantize such statistics of a region; a digital goods marker configured to generate a marked good using quantized statistics.

In this instant application, these limitations are disclosed in Venkatesan et al. column 2, line 55-67; column 4, line 20-63; column 5, line 10-45.

Claim Rejections – 35 U.S.C. §102

18. The following is a quotation of the appropriate paragraphs of **35 U.S.C. §102** that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year

prior to the date of the application for patent in the United States, or

19. **Claims 1, 6, 7, 8, 9, 10, 11, 12, 13 and 16 are rejected** under **35 U.S.C. §102(b)** as being anticipated by Inoue, US Patent No. 6,477,276 (2002).

In regards to claim 1, A processor-readable medium having a processor-executable instructions that, when executed by a processor, performs acts comprising:

Obtaining a digital good (col. 45, lines 65-67);

Partitioning the digital good into a plurality of regions (col. 46, lines 5-9)

Calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region (Figure 13; Col. 46, line 9-15: A mean is found for each block in the group, and then a statistic for the group is computed.);

Quantizing the statistics (col. 46, lines 14-25);

Marking the digital good with the quantized statistics of the plurality of the regions (col. 46, lines 14-39)

In regards to claim 6, wherein the marking comprises embedding a watermark via quantization (col. 47, lines 21-46).

In regards to claim 7, A modulated signal generated by a medium as recited in claim 1 (As Inoue requires a computer to perform the operations disclosed in the patent a signal would need to be generated by that computer to perform the operations described, col. 27, lines 45-50; col. 28, lines 9-13).

In regards to claim 8, A computer comprising one or more processor-readable media as recited in claim1 (Inoue requires a computer to perform the operations disclosed in the patent, col. 27, lines 45-50; col. 28, lines 9-13).

In regards to claim 9, claim 9 is rejected for the same reasons as claim 1. The argument is analogous to that presented above for claim 1 is applicable to claim 9.

In regards to claim 10, claim 10 is rejected for the same reasons as claim 7. The argument analogous to that presented above for claim 7 is applicable to claim 10.

In regards to claim 11, claim 11 is rejected for the same reasons as claim 7. The argument analogous to that presented above for claim 7 is applicable to claim 11.

In regards to claim 12, claim 12 is rejected for the same reasons as claim 8. The argument analogous to that presented above for claim 8 is applicable to claim 12.

In regards to claim 13, claim 13 is rejected for the same reasons as claim 1. The argument analogous to that presented above for claim 1 is applicable to claim 13.

In regards to claim 16, claim 16 is rejected for the same reasons as claim 5. The argument analogous to that presented above for claim 5 is applicable to claim 16.

Claim Rejections – 35 U.S.C. §102

20. The following is a quotation of the appropriate paragraphs of **35 U.S.C. §102** that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b) [35 USC 122(b)], by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) [35 USC 351(a)] shall have the effects for the purposes of this subsection of an application filed in the

United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language;

21. **Claims 1-14 and 16 are rejected** under **35 U.S.C. §102(e)** as being anticipated by Venkatesan et al, PGPub 2004/0001605 (2002).

In regards to claim 1, a processor-readable medium having a processor-executable instructions that, when executed by a processor, performs acts comprising:

Obtaining a digital good

Partitioning the digital good into a plurality of regions

Calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region

Quantizing the statistics

Marking the digital good with the quantized statistics of the plurality of the regions

In the instant application, these limitations can be found in Venkatesan et al, page 5. par 85-93 and Claim 1.

In regards to claim 2 and 3, wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function, this can be found in Vankatesan et al page 5, par. 97-99.

In regards to claim 4, wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function, h, this can be found in Vankatesan et al page 6-7.

In regards to claim 5, wherein the portioning comprises segmenting the digital good into a plurality of overlapped regions, this can be found in Vankatesan et al at page 5 par. 92 and claim 2.

In regards to claim 6, wherein the marking comprises embedding a watermark via quantization (Vankatesan et al page 5, par 100; page 6, par 106 and Claim 8).

In regards to claim 7, A modulated signal generated by a medium as recited in claim 1 (Vankatesan et al, page 1, par 15; page 12, par 246-247 and Claim 9).

In regards to claim 8, A computer comprising one or more processor-readable media as recited in claim1. (Vankatesan et al, page 1, par. 2; page 3, par. 56; page 10, par. 224 and Claim 10).

In regards to claim 9, A processor-readable medium having processor-executable instructions that, when executed by a processor, performs acts comprising obtaining a digital good; and using quantization, watermarking the digital good with a watermark, wherein such quantization is based upon semi-global characteristics of regions of the digital good, wherein such semi-global characteristics are generated via a hashing function employing a quotient of at least two weighted linear combinations of statistics of the regions of the digital good (Vanketesan et al, Abstract; page 3, par 50; page 4, par. 70-72 and Claim 23)

In regards to claim 10, A modulated signal generated by a medium as recited in claim 9 (Vanketesan et al, claim 30)

In regards to claim 11, A modulated signal generated in accordance with the following acts: receiving input from a client computer by way of a communications

network, the input providing a parameter indicative of a request for a modulated signal generated by a medium as recited in claim 9; generating the modulated signal by the medium as recited in claim 9; sending the modulated signal via the communications network (Vanketsan et al, page 2, par. 28; page 3, par. 53 and 55; page 5, par. 88; page 11, par. 234 and Claim 31).
3

In regards to claim 12, A computer comprising one or more processor-readable media as recited in claim 9 (Vanketsan et al, claim 32).

In regards to claim 13, a partitioner configured to segment a digital good into a plurality of regions; a region-statistics calculator configured to calculate statistics of one or more of the plurality of regions, wherein the statistics of a region are representative of that region; a region quantizer configured to quantize such statistics of a region; a digital-goods marker configured to generate a marked good using the quantized statistics. (Vanketesan et al, page 5, par. 98; page 10, par. 206, 215, 216; Claim 40).

In regards to claim 14, A system as recited in claim 13, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function. (Vanketesan et al, page 5, par. 98; page 10, par. 206, 215, 216; Claim 40).

In regards to claim 16, A system as recited in claim 13, wherein the partitioner is further configured to segment a digital good into a plurality of overlapping regions. (Vanketesan et al, Abstract; page 2, par. 30; Fig. 3; page 2, par.44; page 3, par. 65; page 4, par. 73–82; Claim 42).

Claim Rejections - 35 USC § 103

22. The following is a quotation of **35 U.S.C. §103(a)** which forms the basis for all obviousness rejections set forth in this office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under **35 U.S.C. §103(a)** are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. This application currently names joint inventors. In considering patentability of the claims under **35 U.S.C. §103(a)**, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under **37 CFR §1.56** to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of **35 U.S.C. §103(c)** and potential **35 U.S.C. §102(e), (f) or (g)** prior art under **35 U.S.C. §103(a)**.

25. **Claims 3 and 14 are rejected** under **35 U.S.C. §103(a)** as being unpatentable over Venkatesan et al. (WO/2002/037331) and further in view of Jiri Fridrich et al,

"Robust Hash Function for Digital Watermarking" (March 2000). Venkatesan et al does not teach:

> Calculating comprises generating rational statistics of one or more regions of plurality via a hashing function employing a quotient of at least two weighted linear combinations of the one or more regions or the plurality.

However, Jiri discloses a robust hash function for digital watermarking sums up a uniformly distributed pseudo-random sequences (at least two weighted linear combinations of statistics) and normalizing it. Therefore, it would have been obvious to modify claims 3 and 14 of US patent No. 7,095,873 and Vankatesan et al as taught by Jiri in order to render the watermark resistant to attacks (page 2 Par 2). Sufficient rational exists to employ the concept of a robust hash function with applications to digital image watermarking for authentication and integrity verification of video data and still images.

Double Patenting

26. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with **37 C.F.R. §1.321(c)** or **§1.321(d)** may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with **37 C.F.R. §3.73(b)**.

27. **Claims 1, 5, 6, 8, 12, 13 and 16 are rejected** under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U. S. Patent No. 7,095,873 (2002) in view of Venkatesan et al., WO/2002/037331. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the followings:

The claims of U. S. Patent No. 7,095,873 contain every element of the instant

application and as such anticipates claims 1, 5, 6, 8, 12, 13 and 16 of the instant application. In re Goodman, 29 USPQ2d 2010 (CAFC 1993)

28. Claim 1 of U. S. Patent No. 7,095,873, while disclosing all the limitations recited by claim 1 of copending application 10/764345, does not teach that the statistics is rational statistics or marking the digital good with quantized statistics.

In Venkatesan et al WO 02/37331, he teaches a system in the same field of watermarking using hashing functions (Abstract). Also, Venkatesan et al (7,095,873) discloses a system using quantized statistics (column 9, lines 60-76, column 10, lines 1-5, column 15, lines 38-58);

It would have been obvious to modify claim 1 of U. S. Patent No. 7,095,873 as taught by Venkatsan et al in order to render the watermark resistant to BORE (Break Once, Run Everywhere) attacks because even if the global watermark is discovered an attacker needs the hash value of each image to successfully attack the image (Abstract). Also, it would have been obvious to modify claim 1 of copending application to mark the digital good with quantized statistics of the plurality of the regions.

29. Claim 1 of U. S. Patent No. 7,095,873 further discloses the limitations of claim 5 and 16 of copending application PGPub 10/764345.

30. Claim 4 of U. S. Patent No. 7,095,873 further discloses the limitations of claim 6 of copending application PGPub 10/764345.

31. Claim 5 of U.S. Patent No. 7,095,873 further discloses the limitations of claim 8 of copending application 10/764345.

32. Claim 5 of U.S. Patent No. 7,095,873 further discloses the limitations of claim 12 of copending application 10/764345.

33. Claim 1 of U.S. Patent No. 7,095,873, while disclosing all the limitations of claim 13 of copending application 10/764345, does not teach a digital-goods marker configured to generate a marked good using the quantized statistics

It would have been obvious to modify claim 1 of U.S. Patent No. 7,095,873 as taught by Venkatesan et al because quantized statistics (column 9, lines 60-67; column 10, lines 1-5; column 15, lines 40-43)

34. Since the U.S Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under

35 U.S.C. §102(f) or **(g)** and not an extension of monopoly. Failure to comply with this requirement will result in a holding of abandonment of application. This is a double patenting rejection.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Venkatesan, (US 2001) (PGPub 2002/0172394) teaches a method and process of "Robust and Stealthy Video Watermarking."
- Mihcak, (US 2001) (PGPub 2002/0154778) teaches a method and process of "Derivation and Quantization of Robust Non-Local Characteristics For Blind Watermarking."
- Tewfik, (US 2002) (PGPub 2003/0095685) teaches a method and process of "Digital Watermarking Detecting with Weighting Function."
- Rhoads, (US 2003) (PGPub 2003/0219144) teaches a method and process of "Digital Watermarks."
- Shur, (US 1998) (Patent Number 6,330,672) teaches a "Method and Apparatus for Watermarking Digital Bitstreams."
- Watanabe, (US 2003) (PGPub 2003/0133591) teaches a "Encoder and Encoding Method for Electronic Watermarking, Decoder and Decoding Method for Electronic Watermark..."

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Dante Ravetti whose telephone number is (571) 270-3609. The examiner can normally be reached on Monday – Thursday 7:30am-5:00pm.

If attempts to reach examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Charles Kyle may be reached at (571) 272-6746. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system see http://pair-direct.uspto.gov. Should you have questions on access to the private PAIR system, please contact the Electronic Business Center (EBC) at 1- (866) 217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 1-(800) 786-9199 (IN USA or CANADA) or 1-(571) 272-1000.

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January 9, 2008

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